2749
2684

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

WALLACE

Serial No.: **09/576,022**

Filed: **May 23, 2000**

Title: **MOBILE ACTIVITY STATUS TRACKER**

Group Art Unit: **2749**

Examiner: **unknown**

Attorney Docket No.: **20-436**

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May 29, 2001

SUBMISSION OF FORMAL DRAWINGS

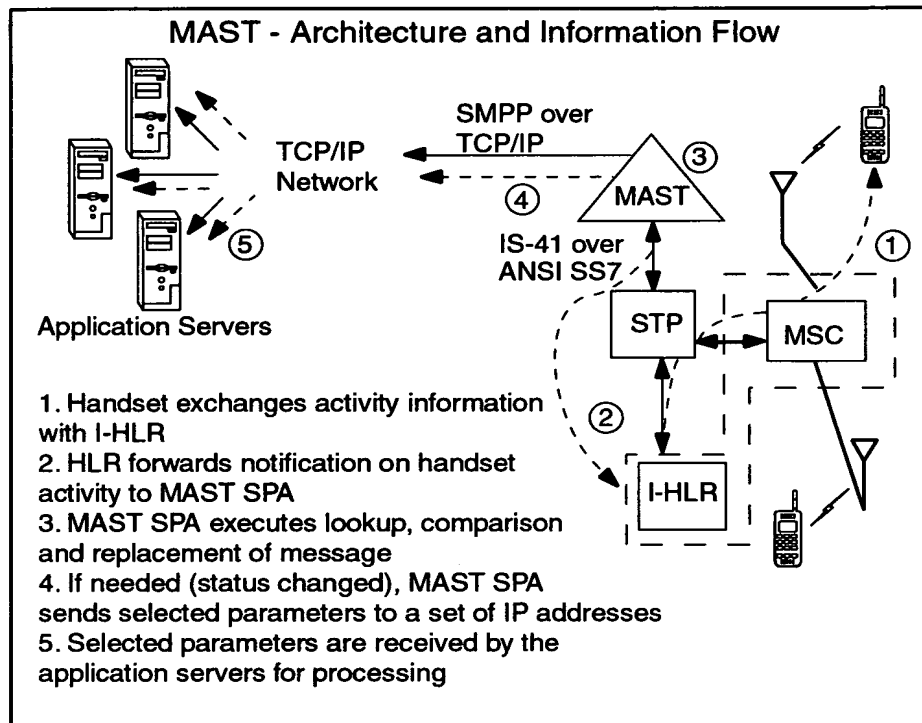Director of US Patent and Trademark Office
Washington, DC 20231

Sir:

Please accept the herewith 14 sheets of formal drawings on A4 size paper of Figures 1 through 11, which are in lieu of the informal drawings filed earlier.

Respectfully submitted,

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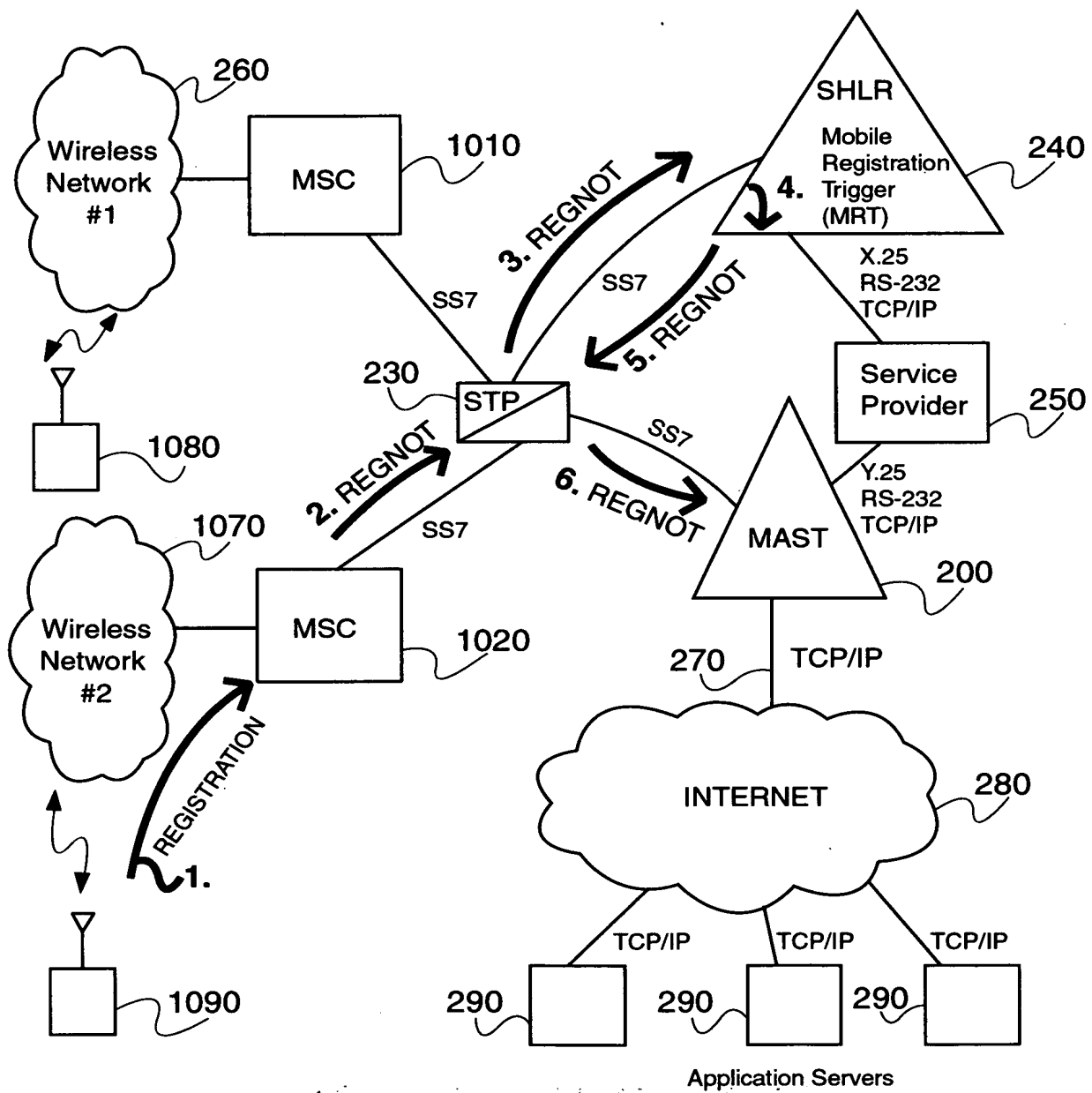
MAST Architecture and Information Flow
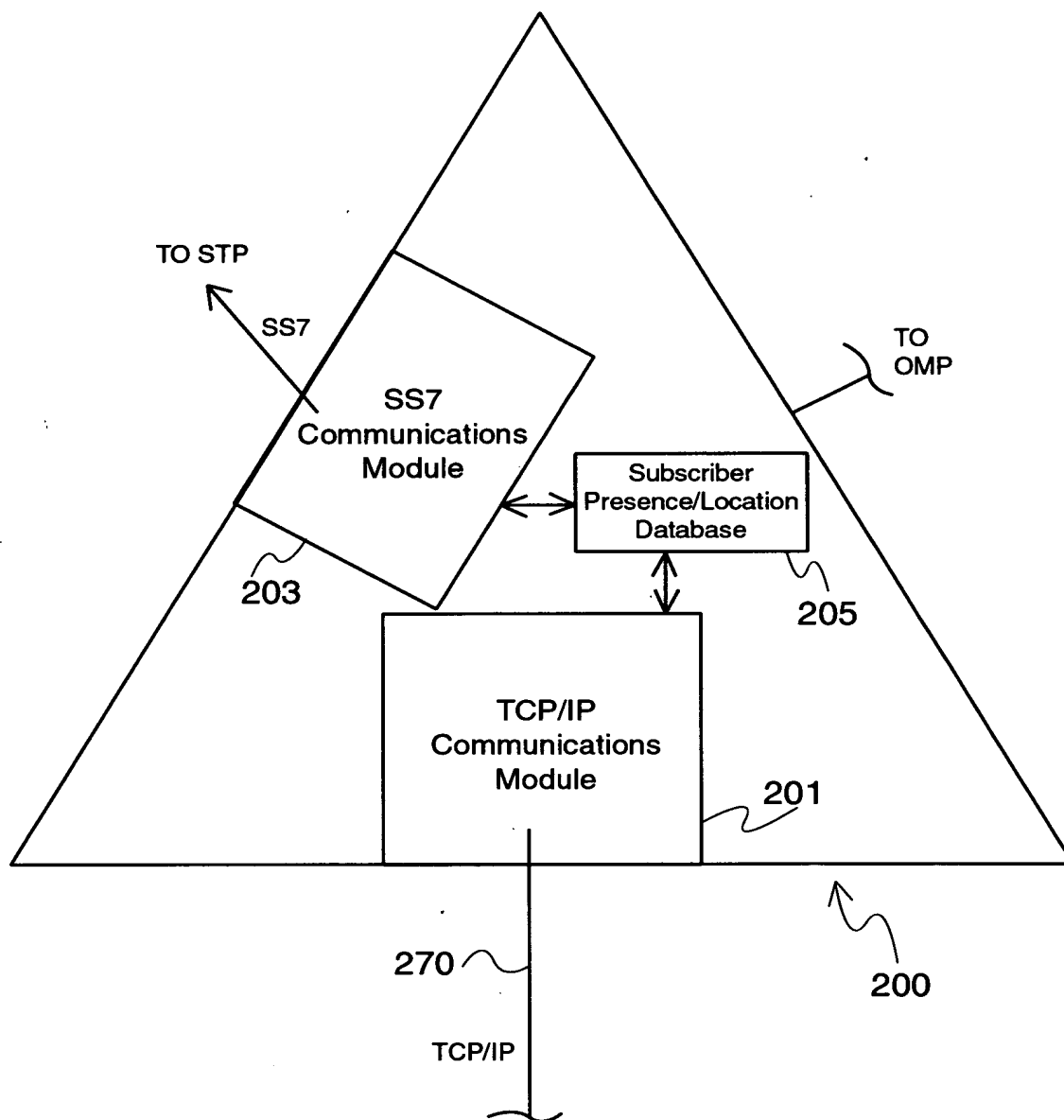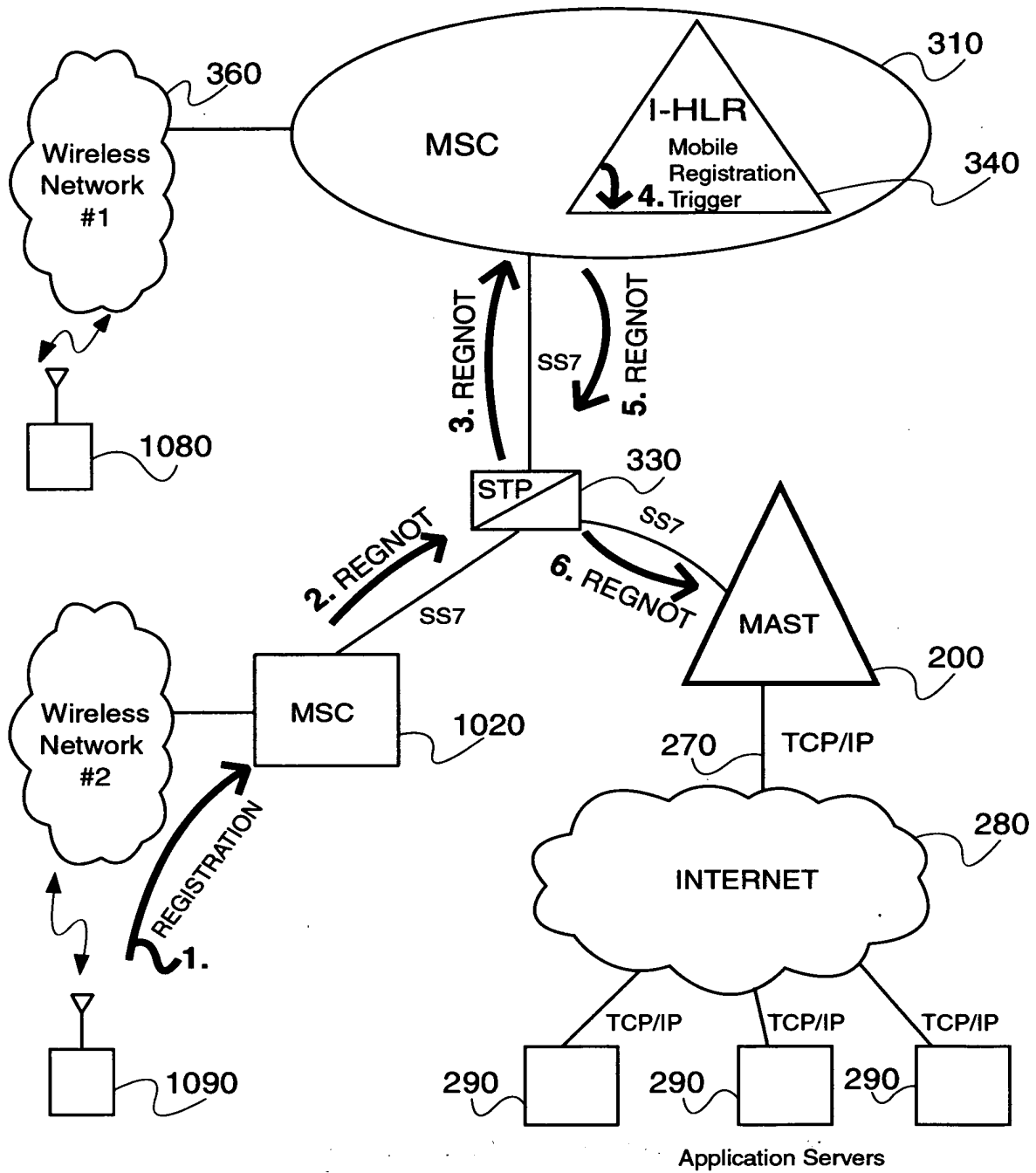
FIG. 1

FIG. 2

TO STP

SS7

SS7
Communications
Module

203

TO
OMP

Subscriber
Presence/Location
Database

205

TCP/IP
Communications
Module

201

270

200

TCP/IP

FIG. 2A

360

Wireless
Network
#1

1080

MSC

I-HLR
Mobile
Registration
4. Trigger

310

340

3. REGNOT

SS7

5. REGNOT

STP **330**

SS7

2. REGNOT

SS7

6. REGNOT

MAST **200**

Wireless
Network
#2

MSC

1020

REGISTRATION

1.

1090

270 TCP/IP

INTERNET **280**

TCP/IP   TCP/IP   TCP/IP

290   **290**   **290**

Application Servers

FIG. 3

FIG. 4

502

Registration Notification

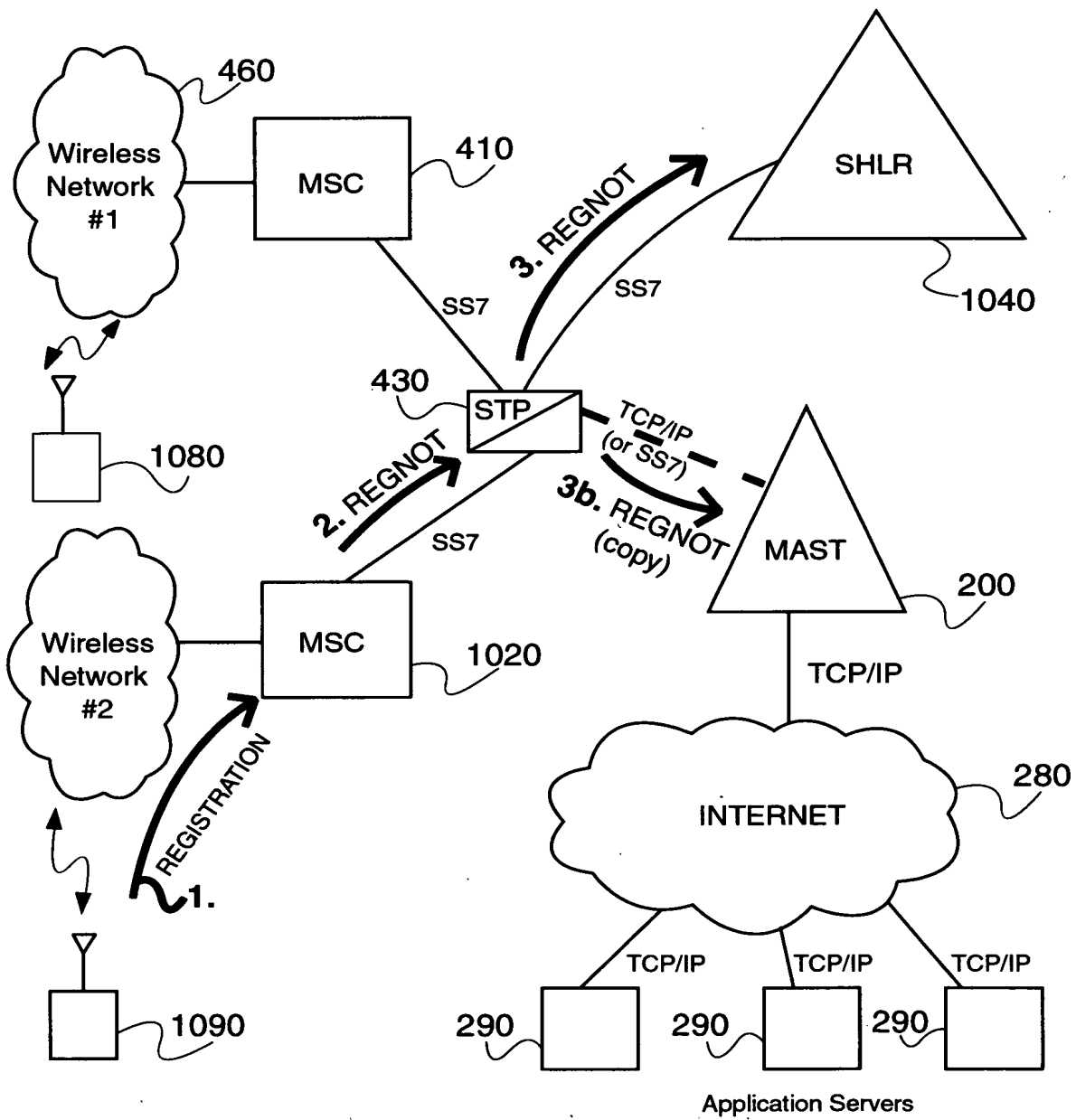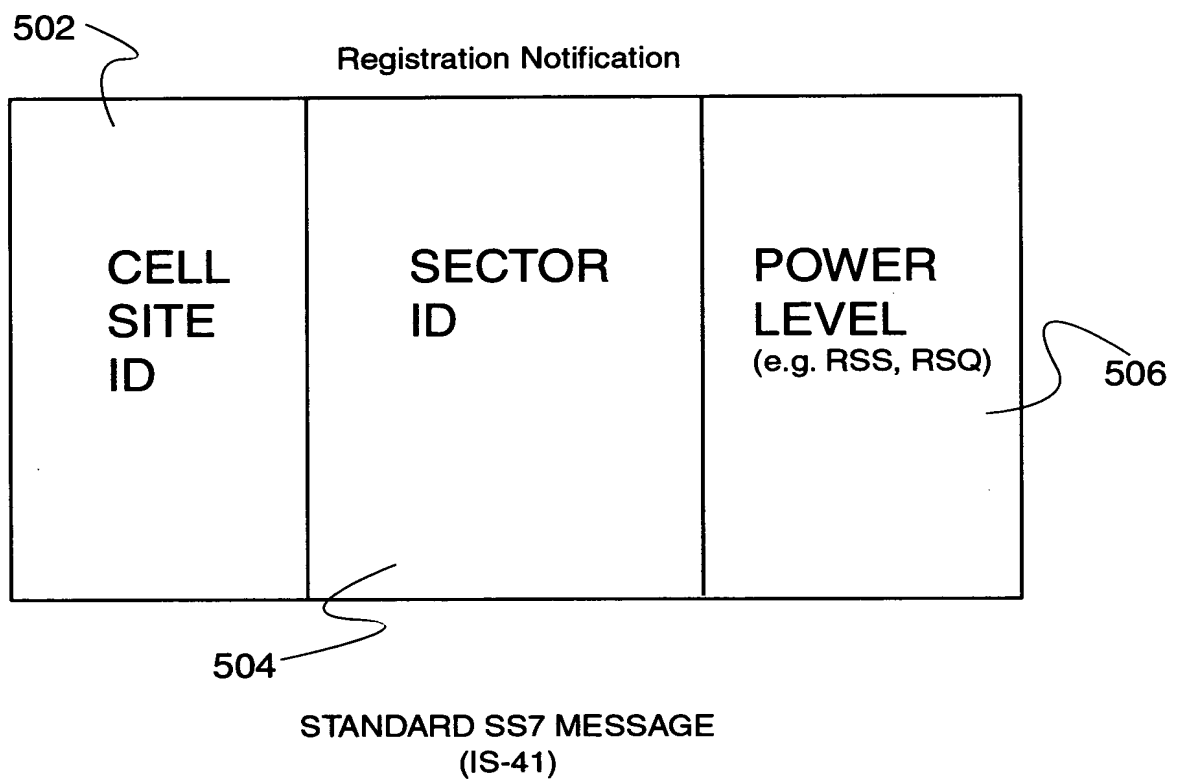| CELL SITE ID	SECTOR ID	POWER LEVEL (e.g. RSS, RSQ)

506

504

STANDARD SS7 MESSAGE
(IS-41)
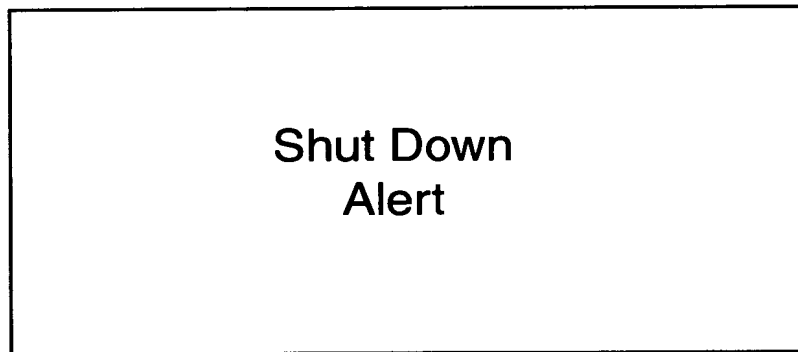
FIG. 5A

RegistrationNotification INVOKE Parameters	
Field	Value
Identifier	SET [NATIONAL18]
Length	variable octets
Contents	

ElectronicSerialNumber	
MobileIdentificationNumber	
MSCID (Serving MSC)	
QualificationInformationCode	
SystemMyTypeCode (Serving MSC or VLR)	
AvailabilityType	
BorderCellAccess	
ControlChannelData ExtendedMSCID (VLR)	
LocationAreaID	
PC_SSN (Serving MSC or VLR)	
ReceivedSignalQuality	
ReportType	
SenderIdentificationNumber	
SMS_ Address	
SMS_ MessageWaitingIndicator	
SystemAccessData	
SystemAccessType	
SystemCapabilities	
TerminalType	
TransactionCapability	

RegistrationNotification INVOKE Parameters

FIG. 5B (Prior Art)

Mobile Subscriber Inactive

Shut Down
Alert

STANDARD SS7 MESSAGE
(IS-41)

FIG. 6

IP Address	Mobile ID	Presence Time/ Date	Location

IP MESSAGE TO APPLICATION SERVER
(e.g., to Chat Server)

FIG. 7A

IP Address	Mobile ID	Log	Presence Time/Date	Location
		#1		
		#2		
		#3		
		#4		
		#5		
		#6		

IP MESSAGE TO APPLICATION SERVER

FIG. 7B

SAMPLE OF TABLE

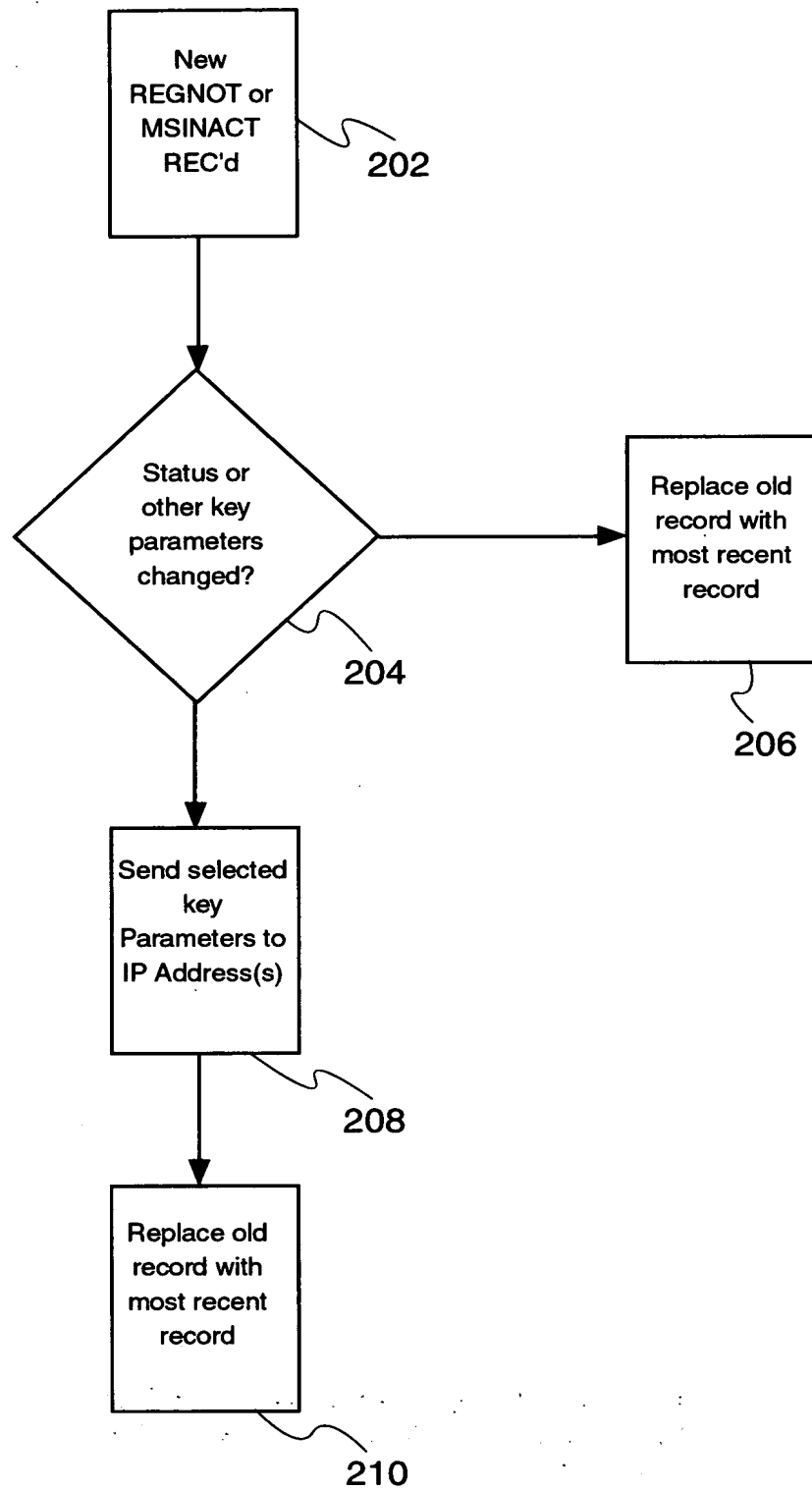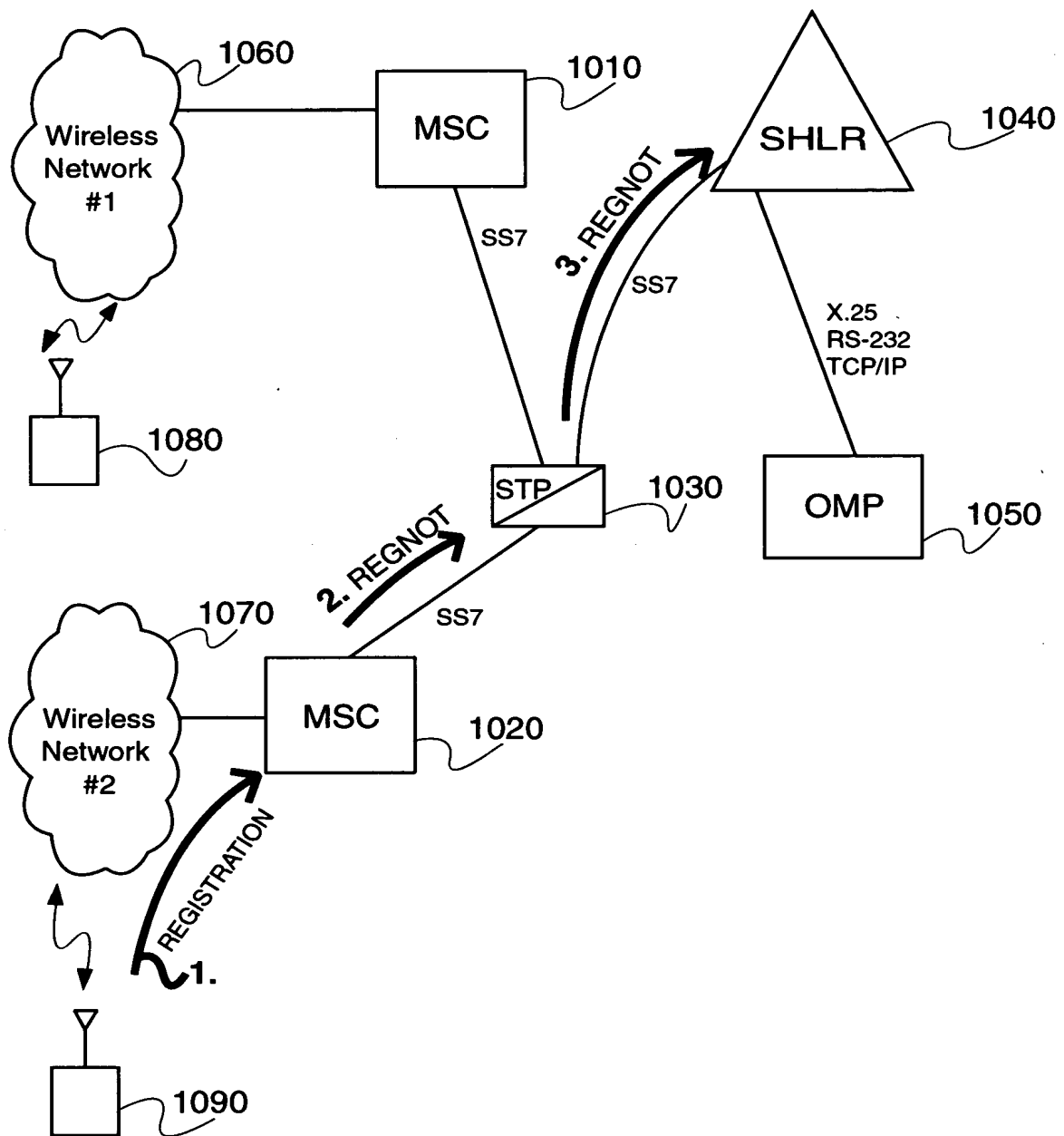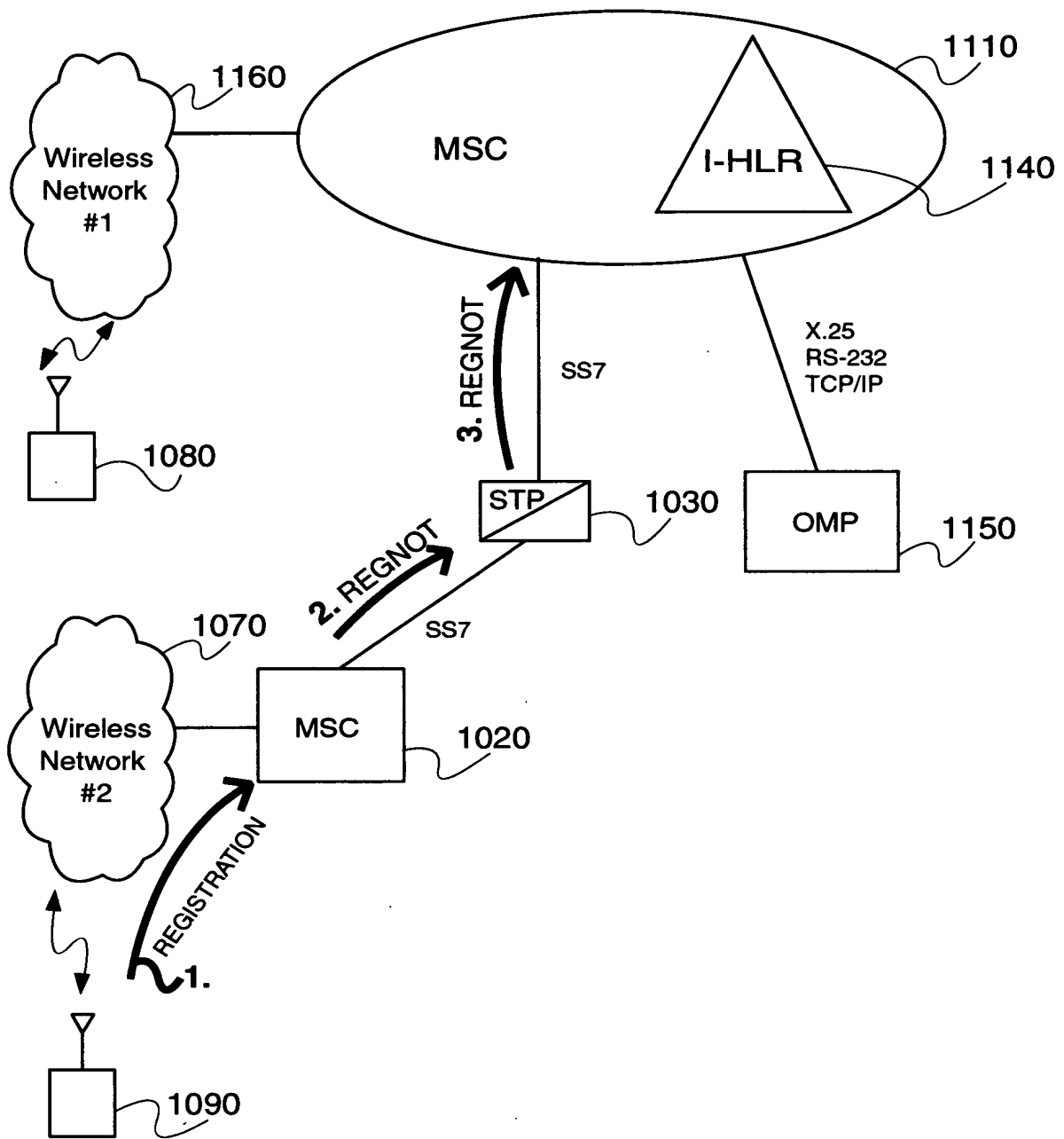| MSID	ACTIVE Y/N	LAST DATE/TIME	PARAMETER 1	PARAMETER 2	PARAMETER 3
COMPARE FIELD	Y	N	Y	N	Y
SEND FIELD	Y	Y	Y	Y	Y
9083067462	Y	120314520000	XX	YY	ZZ

FIG. 8

SAMPLE DECISION TREE

New
REGNOT or
MSINACT
REC'd

202

Status or
other key
parameters
changed?

204

Replace old
record with
most recent
record

206

Send selected
key
Parameters to
IP Address(s)

208

Replace old
record with
most recent
record

210

FIG. 9

FIG. 10

FIG. 11